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ABSTRACT

As part of Project IMPACT's efforts to develop procedures for complying with the impact requirements of Public Law 94-482, a case study was made of the Illinois Occupational Curriculum Project (IOCP). The top-down study traced the IOCP from its developers to its users and documented measurable changes in the 1971 versus the 1979 curriculum development behaviors of community college administrators in Illinois. The purpose of IOCP was to develop workable process models that could be used as a guide for local education agencies and the state education agency in developing and evaluating curriculum in occupational education. The philosophy of IOCP was that educational administrators should follow a step-by-step procedure prior to making a decision. In order to aid administrators in carrying out this model process, 12 products were created. The major products were five activity manuals containing learning activities which were introduced at workshops. Evaluation of the IOCP showed that three of the four intended consequences of using the IOCP manuals were realized: more systematic planning, more use of resource materials, and more writing of specific management objectives. The intended consequence that was not realized was more staff involvement. Findings of Project IMPACT's case study confirmed the project evaluation and elucidated factors that facilitated that impact. Probably the most significant finding regarding the actual measurement of impact had to do with the importance of collecting pre- and post-data on the project in the same fashion (open-ended questions) and the observation that even when significant differences in behavior of administrators were observed, it would be impossible to ascribe the change solely to the influence of the IOCP. (KC)

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DEVELOPMENT OF PROCEDURES FOR ASSESSING THE IMPACT OF VOCATIONAL EDUCATION RESEARCH AND DEVELOPMENT ON VOCATIONAL EDUCATION (PROJECT IMPACT)

Volume 2 - A Case Study of the Illinois Occupational Curriculum Project

STATE BOARD OF EDUCATION
Donald F. Murheid, Chairman

ILLINOIS OFFICE OF EDUCATION
Joseph M. Cronin, State Superintendent of Education

CE 029 819

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Development of Procedures for Assessing
the Impact of Vocational Education
Research and Development on Vocational
Education (PROJECT IMPACT)

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August, 1980

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Department of Adult, Vocational and Technical Education

Springfield, Illinois
August, 1980

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Abstract

In order to identify and develop procedures for complying with the impact requirements of Public Law 94-482, PROJECT IMPACT studied five problems: (1) how to define impact, (2) how to assess impact, (3) how to show cause and effect relatonships between research and development (R&D) activities and changes in the vocational education teaching-learning situation, (4) how to predict the probability of impact, and (5) how to facilitate the impact of R&D activities. The methods used in these studies were to review and discuss views of experts and literature related to the problems and to analyze the process of impact in selected cases of R&D activities and exemplary programs in vocational education in Illinois. Findings of PROJECT IMPACT's activities from August 1, 1978 to July 1, 1980 are reported in nine volumes: (1) Context and Principles of Assessing Impact, (2) A Case Study of the Illinois Occupational Curriculum Project, (3) A Case Study of the Illinois Network of Exemplary Occupational Programs for Handicapped and Disadvantaged Students, (4) A Case Study of Illinois Projects in Horticulture, (5) A Case Study of Illinois Career Education Projects at the Awareness Level, (6) A Case Study of the Occupational Survival Skills Project, (7) Case Studies of Two Illinois School Districts with Innovative Vocational Education Programs (8) A Field Study of Predicting Impact of Research and Development Projects in Vocational and Technical Education, and (9) an Executive Summary.

Volume 2 traces the Illinois Occupational Curriculum Project from its developers to its users and documents measurable changes in the 1971 versus 1979 curriculum development behaviors of community college administrators in Illinois.

Author's Acknowledgements

PROJECT IMPACT is greatly indebted to the staff and consultants of the Illinois Occupational Curriculum Project and to the many school administrators and teachers who gave their time and energies toward the completion of questionnaires, personal interviews, telephone conversations, and document retrievals which provided the information for this report. We also appreciate the contributions made by our contract administrators at the Research and Development Section, by our consultants and by our colleagues at the University of Illinois. We are especially grateful for the excellent assistance the secretaries in the College of Education at the University of Illinois gave us in preparing this case study.

Marilyn R. Cheney-Stern, Ph.D.

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Overview of PROJECT IMPACT

In 1974, the U.S. Office of Education (USOE) asked the National Academy of Sciences (NAS) to assess the impact of approximately 250 million dollars spent by USOE on vocational education research and development (R & D) activities during the ten years between 1965 and 1974. The NAS Committee on Vocational Education Research and Development (COVERD, 1976) reported that the R & D of the decade studied had a positive impact on curriculum development but did not have documented, widespread impact on the knowledge, skills or employability of large numbers of students. National evaluations of vocational R & D in addition to the COVERD report have been similarly critical (Development Associates, 1975; Rand Corporation, 1975; Comptroller General of the United States, 1974). Acting upon these reports, Congress passed the Educational Amendments of 1976 (Public Law 94-482) which mandated that contracts for R & D in vocational education not be allowable unless the applicant could "demonstrate a reasonable probability that the contract would result in improved teaching techniques or curriculum materials that would be used in a substantial number of classrooms or other learning situations within five years after termination of such contracts" (Federal Register, 1977).

PROJECT IMPACT is a state funded study designed to develop procedures for assessing the impact of vocational education research and development efforts on vocational education. The primary purpose of the study is to identify and develop procedures for complying with the impact requirement of Public Law 94-482.

The study addresses itself to three problem areas: (1) how to define impact, (2) how to assess impact, and (3) how to show a cause-and-effect relationship between project activities and changes in the vocational education teaching-learning situations. The study also addresses two subsidiary problems: (1) how to predict the probability of impact and (2) how to manage on-going contracts to increase impact probability.

The methods used to conduct this study were to review literature related to the problem areas, to interview individuals who have experience and expertise in the problem areas, and to analyze the process of impact of several programs of related projects which were funded by the Illinois Office of Education/Department of Adult, Vocational and Technical Education/Research and Development Section and one project funded by the Comprehensive Employment and Training Act (CETA).

The major activity of this study was analyzing the programs (cases) of related R & D projects. For the first year, it was decided to select two cases for "top-down" analysis and two cases for "bottom-up" analysis (see Volume 1, Appendix A, p. 43). The project staff referred to these types of retrospective analysis as "tracking." It was anticipated that two types of tracking would produce different insights about impact. For example, bottom-up tracking might better identify "bottlenecks" to impact than would top-down tracking while top-down tracking might be more effective in relating project intents and project outcomes. One staff member was assigned as "tracking manager" for each of the four cases and was instructed to keep a detailed log of her/his activities (e.g., identifying documents, retrieving documents, identifying key people and interviewing them, recording data, analyzing data).

Nominations for the first four case studies were sought from members of PROJECT IMPACT's Advisory Committee, project consultants, and project staff members. The following cases were selected for "top-down" tracking:

1. "A Research and Development Project in Occupational Education" (The Illinois Occupational Curriculum Project--I.O.C.P.) which was developed by Joliet Junior College and funded by them and by the Illinois Department of Adult, Vocational and Technical Education in fiscal years 1970-72.
2. "The Illinois Network of Exemplary Occupational Programs for Handicapped and Disadvantaged Students." At the time the case study was initiated, the network was in its fourth year of operation. It was in the "dissemination" stage and IOE/DAVTE had funded Illinois State University to coordinate dissemination for the Network's eight demonstration projects.

The third and fourth cases, which were selected for "bottom-up" tracking, were:

3. "Illinois Projects in Horticulture." IOE/DAVTE had funded some twelve R & D projects in horticulture between 1967 and 1978. Both private and public schools participated in these R & D efforts.
4. "Illinois Career Education Projects at the Awareness Level." IOE/DAVTE funded three or more major projects in this area between 1970 and 1978, and CETA funded one for the Illinois Department of Corrections in 1975.

During its second year PROJECT IMPACT studied the "Occupational Survival Skills Project" and "Two Illinois School Districts with

Innovative Vocational Education Programs" and developed a model for an "Impact Assessment System for the Illinois Board of Education/Department of Adult, Vocational and Technical Education/Research and Development Section."

PROJECT IMPACT's activities for the 1979 and 1980 fiscal years are reported in nine volumes. Volume 1--Context and Principles of Assessing Impact-contains an introduction to PROJECT IMPACT, a review of literature and views of experts in regard to planned educational change and impact, the methods used to conduct case studies, a concise listing of references used during Phase 1 activities, and appended materials such as the initial project proposal and data collection instruments which were developed for use in case studies. Supplemental reports of the project are contained in the following volumes:

Volume 2 -- A Case Study of the "Illinois Occupational Curriculum Project"

Volume 3 -- A Case Study of the "Illinois Network of Exemplary Occupational Programs for Handicapped and Disadvantaged Students"

Volume 4 -- A Case Study of "Illinois Projects in Horticulture"

Volume 5 -- A Case Study of "Illinois Career Education Projects at the Awareness Level"

Volume 6 -- A Case Study of the "Occupational Survival Skills Project"

Volume 7 -- Case Studies of "Two Illinois School Districts With Innovative Vocational Education Programs"

Volume 8 -- A Field Study of "Predicting Impact of Research and Development Projects in Vocational and Technical Education"

Volume 9 -- Executive Summary of Volumes 1-8 and Conclusions and Recommendations for Assessing the Impact of Vocational Education Research and Development on Vocational Education

A Case Study of the Illinois Occupational Curriculum Project

The steps for tracking this case from the top down were to collect data on the origins, development, field testing, evaluation, diffusion, adoption and future of IOCP. The study is divided into a narrative report, a summary of critical decisions, a chronology of major events, and an impact-data matrix of IOCP.

1. Narrative Report of the Illinois Occupational Curriculum Project (IOCP)

The narrative report on IOCP is organized as follows: introduction, general description, origins, development, formative evaluation, diffusion, adoption, future, summary and conclusions.

1.1 Introduction

A Research and Development Project in Occupational Education, later known as the Illinois Occupational Curriculum Project (IOCP) was actually a group of related projects which were funded by the Illinois Office of Education/Department of Adult, Vocational and Technical Education. The Research and Development Section funded a "Phase-One Project for Planning" for 4 months in March of 1970, a "Phase-Two Project for Materials Development" for 12 months in July of 1970, and a "Phase-Three Project for Field Testing and Dissemination" for 12 months in July of 1971. IOCP was developed by Joseph A. Borgen and Dwight E. Davis. At the time IOCP was developed, Borgen and Davis were vocational education administrators at Joliet Junior College in Joliet, Illinois. Borgen, Davis and their R & D team produced numerous products. A listing of 13 of these products was contained in an IOCP bibliography (see Table 1). Many of these products were distributed by the Illinois Office of Education/Department of Adult, Vocational and Technical Education. However, the items designated 8, 9, 10, 11 and 12 (which were the major IOCP products) were published by the McKnight Publishing Company in 1974 and distributed by them under the title Planning, Implementing and Evaluating Career Preparation Programs. Items 1, 4, 5, 6 and 7 are available through the Educational Resources Information Center's (ERIC) collection of documents.

Table 1

Bibliography of Illinois Occupational Curriculum Project Reports and Publications

1. "Proposal for Phase I of A Research and Development Project in Occupational Education: The Development of Process Models for Decision-Making in Curriculum Development and Evaluation." IOCP, Joliet Junior College, Joliet, Illinois: February 1, 1970. (ED 050 270)
2. "Proposal for Phase II of A Research and Development Project in Occupational Education: The Development of Process Models for Decision-Making in Curriculum Development and Evaluation." IOCP, Joliet Junior College, Joliet, Illinois: May 29, 1970.
3. "Proposal for Phase III of A Research and Development Project in Occupational Education: The Development of Systems Models for Decision-Making in Occupational Curriculum Development and Evaluation." IOCP, Joliet Junior College, Joliet, Illinois: April 23, 1971.
4. "Phase I Report of A Research and Development Project in Occupational Education: The Development of Process Models for Decision-Making in Curriculum Development and Evaluation." Unpublished report by IOCP, Joliet Junior College, Joliet, Illinois: October, 1970. (ED 050 270)
5. An Investigation of Curriculum Development and Evaluation Models with Implications Toward a Systems Approach to Curriculum Development and Evaluation in Occupational Education; Joliet, Illinois: Joliet Junior College, 1971. (ED 060 201)
6. An Investigation of Decision-Making Practices in Illinois Junior Colleges with Implications Toward a Systems Approach to Curriculum Development and Evaluation in Occupational Education: Joliet, Illinois: Joliet Junior College, 1971. (ED 060 199)
7. An Investigation of Systems Designs and Management Techniques with Implications Toward a Systems Approach to Curriculum Development and Evaluation in Occupational Education; Joliet, Illinois: Joliet Junior College, 1971. (ED 060 200)
8. Management Strategies and Guidelines for Using IOCP Manuals; Springfield, Illinois: State of Illinois, Board of Vocational Education and Rehabilitation, 1972.
9. Activity Manual for Occupational Program Identification; Springfield, Illinois: State of Illinois, Board of Vocational Education and Rehabilitation, 1972.
10. Activity Manual for Occupational Program Development; Springfield, Illinois: State of Illinois, Board of Vocational Education and Rehabilitation, 1972.
11. Activity Manual for Occupational Program Implementation; Springfield, Illinois: State of Illinois, Board of Vocational Education and Rehabilitation, 1972.
12. Activity Manual for Occupational Program Evaluation; Springfield, Illinois: State of Illinois, Board of Vocational Education and Rehabilitation, 1972.
13. "Final Report of the Illinois Occupational Curriculum Project." Unpublished report by IOCP, Joliet, Illinois: Joliet Junior College, 1972.

The focus of IOCP was on the administration of career preparation programs at the secondary and postsecondary levels. According to the "IOCP Proposal for Phase One" (pp. 1-3), the groups targeted for impact from the R & D activities and products were local education agency (LEA) and State education agency (SEA) administrators in Illinois. However, no figures for those two populations were given in the IOCP proposal. IOCP received a total of $227,297 in state (Illinois) and local (Joliet Junior College) funds to carry out its R & D activities during 1970, 1971 and 1972. The State funds for those years came from the Research and Development Section. State funds for subsequent activities came from another section.

1.2 General Description

The stated purpose of IOCP was to develop workable process models that could be applicable as a guide for (1) local eduation agencies in program development and evaluation and for (2) the State education agency in planning and decision-making (p. 3 of the Proposal for Phase One). The stated objectives of IOCP were:

- To develop process models for curriculum development in occupational eduation.
- To develop guidelines for utilization and application of the process models.
- To conduct a series of evaluation workshops to assess the value of process models.
- To test the applicability of the process models in a pilot situation and other settings.

- To develop a plan for dissemination and in-service training for curriculum planners in the utilization of process models.
- To promote research on related problems (p. 2 of the Proposal for Phase One).

The philosophy of IOCP was that educational administrators should follow a step-by-step procedure prior to making a decision. This procedure should include determinations of resources, evaluative criteria, and constraints affecting each decision. The philosophy is known as "systems approach". The systems approach has evolved into a theoretical model consisting of three phases--analysis, engineering and management. Other theories or models which were reviewed for IOCP's development were:

- Models for curriculum development
  - -- the objectives approach (Taba's model, 1962)
  - -- the product-development approach (?)
  - -- the systems approach (Department of Defense, 1961)
- Models for curriculum evaluation
  - -- accreditation (?)
  - -- Tylerian (Tyler, 1942-19__)
  - -- management-systems (Stufflebeam's model, 1967)
  - -- summative-composite (Stake's model, 1967)
- Models for social and economic effects of a planned curriculum
  - -- UNESCO data reported by W. S. Bennet (no date)

The products designated as items 4, 5, 6 and 7 on the IOCP bibliography in Table 1, were typed and reproduced on white paper and held together with plastic spines. Each document had a colored cover which contained a design as well as a title.

The products designated as items 8, 9, 10, 11 and 12 were released in five (8½" x 11") paperback manuals. Each manual had a white cover with the title printed in a bright contrasting color. The pages of each manual were in color-coded sections of white, blue and yellow paper. The contents of the manuals were presented in a branching

PHASE I	PHASE II	PHASE III
March 1, 1970 - June 30, 1970	July 1, 1870 - June 30, 1971	July 1, 1971 - June 30, 1972
PROJECT PLANNING	MATERIALS DEVELOPMENT	FIELD TESTING DISSEMINATION
State $24,550.00 / Local $6,916.00	State $67,178.00 / Local $16,950.00	State $90,503.00 / Local $21,200.00
Total = $31,466.00	Total = $84,128.00	Total = $111,703.00

Figure 1. The funding pattern for IOCP

form of programmed instruction. Instructional activity statements were identified by a hierarchical numbering system and a page reference. The contents of the five IOCP activity manuals are listed below. The manuals presented some seventy learning activities which covered these topics.

- o Advisory Committees
- o Ancillary Services
- o Budgets
- o Cataloging Materials and Equipment
- o Competencies
- o Cost Information
- o Courses/Programs
- o Credit by Examination
- o Employment Trends
- o Evaluation
- o Facilities
- o Instructional Equipment and Materials
- o Instructional Methodology
- o Objectives
- o Program Requests/Suggestions
- o Recruiting
- o Scheduling
- o Scheduling
- o Specifications
- o Surveys
- o Target Groups

When McKnight published the five IOCP activity manuals, they punched the pages and placed all five manuals in one hard-cover book in the form of a three-ring binder with a colorful cover. The IOCP products which were released by the Illinois Office of Education were distributed free. The cost of the McKnight (1974) publication was 46 dollars.

The IOCP products designated as 6, 7 and 8 in Table 1 were prepared as parts of the Phase Two Report to the Illinois Board of Education. Copies of the documents were also sent to IOCP consultants. Some of these consultants who were teacher educators pro-

ceeded to use the products as assigned or recommended reading for college students. No procedures were ever developed for this use, however.

The five activity manuals were considered the major product of IOCP, and extensive procedures were developed for their use. Pages 1-14 of the first IOCP manual (item 8 in Table 1) contained detailed instructions on how to use the five activity manuals. In addition to these written instructions, the IOCP developers and the Illinois Department of Adult, Vocational and Technical Education decided to release the manuals through a series of workshops so that the potential users would receive further instructions from the verbal presentations of IOCP's developers.

1.3 Origins

The key personnel of IOCP were Joseph A. Borgen and Dwight E. Davis who served as codirectors of each of the related projects. Two additional staff members who guided the development of IOCP were Urban T. Oen who served as Research Coordinator and David A. Anderson who served as Project Coordinator. All four of these project staff members were experienced vocational educators and all held graduate degrees in education.

The ideas from which IOCP originated were conceived in the fall of 1969 by Borgen and Davis when they were vocational education administrators at the same Junior College in Illinois. These gentlemen had been friends and colleagues for many years. In both their personal and professional discussions, they developed a concern about certain administrative practices. They became especially concerned about practices related to the planning and evaluation of career preparation programs.

By this time in history, the U.S. Congress (through the Vocational Amendments of 1968) and the State of Illinois (through the 1968 State Plan) had mandated changes for the improvement and expansion of vocational education. Consequently, many institutions began offering new or expanded career preparation programs at the secondary and post-secondary levels, and many new institutions such as Area Vocational Schools and Community Colleges were begun. Both the old and new institutions were hiring new administrators for their career preparation programs.

The IOCP developers felt there was a very great need to improve and systematize the overall process of occupational curriculum development and wanted "to be involved in an investigation having definite value to the [vocational education] profession as a whole" (p. 8 of item 1 in Table 1). Although there were no Requests for Proposals (RFP's) in this area of vocational research, the IOCP originators proceeded to develop their ideas for a research, development, and demonstration project. They decided to consult with one of their mentors who was a curriculum specialist and an Associate Professor in Vocational and Technical Education at the University of Illinois. In the fall of 1969, these three persons met in the home of one of the IOCP developers and "laid out a model for the project on the kitchen table." Their philosophy for curriculum development and evaluation was detailed in a PERT chart contained in an IOCP planning document dated October, 1970. (Dr. McCage, manager of the Research and Development Section of the Illinois Department of Adult, Vocational and Technical Education, said that the completed PERT chart for all three phases of IOCP "was so long that it went clear around a house trailer" which was being used as a temporary office at Joliet Junior College.)

A tentative process model which summarized major curriculum planning activities was also developed. These activities included:

- o Assessing the community needs
- o Assessing the feasibility of programs to meet needs
- o Assessing the characteristics of program clients
- o Assessing the program content
- o Assessing the competencies required by instructional staff

The diagram of the model and a discussion of it are contained in Appendix D of the Phase-One Report of IOCP (See item 4 in Table 1).

The IOCP staff conducted three major investigations before they developed the five IOCP manuals (See item 5, 6 and 7 in Table 1). A most significant product of the investigation of decision-making practices was the survey of 1971 practices of program/curriculum developers and evaluators in Illinois Community Colleges. Randomly selected samples of vocational educators, institutions and occupational programs resulted in a total of 48 respondents representing 8 occupational areas and 27 colleges. The findings of the survey provided baseline data which validated the assumption that there was a great need to improve and systematize the 1971 practices. For example, the survey found that the most common practice of occupational curriculum developers was to rely on the "feelings" of (rather than facts presented by) their advisory committees (93.8% of the respondents). The second most common practice was to copy programs in other institutions (70.8% of the respondents). Local manpower surveys were done by about half (54.2%) of the respondents. Only a few respondents collected any data on student characteristics during curriculum development activities, and no one reported the use of occupational or task analysis activities as being one of their curriculum development procedures. The most common evaluation practice which was reported again involved a heavy

reliance on advisory committees (79.2%). About half (52.1%) of the respondents reported asking students to evaluate occupational programs.

Based on document analysis and interviews with key personnel and consultants, it is clear that IOCP originated from a felt need at the local level and that these needs were verified by the baseline data collected. These data pinpointed where the problems in the 1971 practices of curriculum development and evaluation existed, and the proposed solutions to improving these practices were based on well-established curriculum theories and models. The details of how these solutions were developed follow.

1.4 Development

At the time IOCP was developed, only one other similar product was known to exist. Vocational, Technical, and Continuing Education in Pennsylvania: A Systems Approach to State-Local Program Planning was undertaken by Walter M. Arnold in 1969 but had not been released as of a 1971 investigations for IOCP.

Little technological hardware was required for developing IOCP. However, the Phase-Two report on decision-making practices (see item 6 in Table 1) acknowledged use of a computer for data analysis. Although the IOCP documents are visible products, they contain guidelines for systematizing intellectual processes. The development of IOCP is difficult to describe because the intellectual products of IOCP transcend the physical products.

As the developers refined their process model for development and evaluation of occupational curricula and developed an overall plan for a

project to demonstrate its use, they gained the support of their college's president. In February of 1970, Joliet Junior College (JJC) sought State R & D funds for the project. Interestingly, instead of waiting until the next fiscal year, the Research and Development Section funded them with a four-month (March through June) planning grant of 24,550. An additional $6,916 was contributed by JJC for a combined total operating budged of 31,466. The project was implemented immediately but there was considerable difficulty finding additional staff who were willing to make a commitment for only four months. Consequently, only $14,936 of the $31,466 planning grant was actually spent. Information as to what proportion of JJC's financial resources, staff, and facilities were devoted to IOCP was not available.

Some facts about JJC are probably significant to the development of ICOP JJC is the oldest junior college in the United States and it has always been innovative. JJC had participated in other R & D projects in the past and was involved in others at the time IOCP was developed. The IOCP developers and other staff members at JJC had close working relationships with major research institutions (especially the University of Illinois), and IOCP benefited from the expertise of consultants who were affiliated with these institutions.

The original development plan called for four phases: "Planning", "Model Development and Preliminary Evaluation", "Pilot Testing of the Model", and "In-Depth Evaluation and Dissemination". Three phases (Planning, Development and Dissemination) were funded by the Research and Development Section. However, the developers conducted several evaluation activities at their own expense.

During the Model Development Phase, the developers were able to pilot test the IOCP processes and products at JJC and revise them accordingly. After this was done, they field tested the five activity manuals with 14 school districts in Illinois (7 community college districts, 3 area vocational centers, and 4 comprehensive high schools). IOCP staff members made regular on-site visits to gather data for the refinement of the IOCP manuals. Regional evaluation conferences were held to bring together field test participants. The five manuals were revised before they were submitted to the Illinois Office of Education. Most of the revisions had to do with the directions for using the manuals. Most of these directions were in the first of the five manuals. Manuals two through five required few changes.

These five manuals contained written procedures and sample forms to assist local vocational educators with 63 instructional management tasks. During the same period of development, the Illinois Office of Education asked the IOCP developers to prepare a publication titled, Writing Measurable Objectives for Career Education. The publication included many excerpts from the IOCP manuals. Approximately 10,000 copies were disseminated in Illinois.

Throughout the planning and development phases of IOCP, the developers provided for both internal and external formative evaluation of their activities and products. The details of these evaluation efforts are described below.

1.5 Formative Evaluation of IOCP

From the outset of IOCP, the developers set target dates for the completion of tasks and identified check-points for various "go" or "no-go" decisions. They also made budgetary provisions for external evaluation of all phases of IOCP. There were numerous written reports of an internal nature which were not readily available for document analysis in this case study. There were also meetings where verbal reports were given and critical decisions made. Some of these events will be related in the summary of critical decisions section of this study. It should be noted that there was never just one external evaluator who served IOCP throughout all its phases. Instead, experts in tasks of all the various components (sub-models) of the IOCP process model were identified and hired as consultants. These experts then reviewed some, but never all, of IOCP's R & D activities.

1.6 Diffusion

Some mention has already been made of the diffusion of IOCP products other than the five activity manuals (i.e., the three investigative reports of Phase Two and the publication on measurable objectives during Phase Three). This discussion will be limited to diffusion of the IOCP manuals.

During the 1972-73 academic school year, the Illinois Department of Adult, Vocational and Technical Education sponsored 10 three-day workshops on use of the IOCP manuals. An announcement of these workshops was mailed to vocational educators throughout the state. No information as to how many announcements were mailed was available. Some 550 persons attended these 10 workshops in Illinois between

August 1972 and June 1973. During the next year, the Illinois Department of Adult, Vocational and Technical Education sponsored three more such workshops, Minnesota sponsored six, and Michigan and Wisconsin each sponsored one or more. No information as to the total number of IOCP workshop participants was available. It is documented that participants consisted of both state and local vocational education administrators and some teacher educators but that the only intended target group of the workshops was local vocational education administrators (Davis, 1974). During the 1973-74 academic year, the Illinois Department of Adult, Vocational and Technical Education contracted for 10 additional workshops for local vocational education leaders to be conducted by the IOCP developers but not limited to the IOCP manuals. In this instance, the same 25 local leaders participated in all 10 workshops.

It should be noted that only the field tests of the 1971-72 school year were conducted from the $227,297 in funds from the Research and Development Section for the original three-phased project. The workshops which were sponsored in the 1972-73 and 1973-74 school years were funded with non-R & D money from Illinois or other sponsoring States' Departments of Adult, Vocational and Technical Education.

During prior activities, the Illinois Department of Adult, Vocational and Technical Education had evaluated its dissemination function and decided that it did not include publishing on a large scale. They had established a policy of protecting author's copyrights and getting bids for the publishing of materials intended for wide dissemination. This procedure was followed with IOCP and in the spring of 1974, the five activity manuals were released to the McKnight Publishing Company of Bloomington, Illinois. Prior to this time, no one could get a set of

manuals unless they attended an IOCP workshop. This strategy for dissemination was a conscious decision on the part of the Illinois Department of Adult, Vocational and Technical Education and the IOCP developers. They thought it would facilitate IOCP's impact if it belonged to an elite cadre. McKnight wanted to follow this same procedure on a national scale. They also wanted to hire the IOCP developers to conduct these workshops, but the IOCP developers were interested in pursuing other aspects of their careers. They did, however, agree to represent McKnight at the annual convention of the American Vocational Association in December of 1974 and to introduce the publication, called Planning, Implementing and Evaluating Career Preparation Programs. The book was not ready by the time of the convention. This unfortunate timing is thought to have impeded the impact of the publication.

During the time between the last workshop and the availability of the McKnight publication, the Illinois Department of Adult, Vocational and Technical Education and the IOCP developers received numerous requests for manuals. Therefore, they decided to fill as many of these requests as possible by disseminating the stock of manuals which the State still had. In all, approximately 3,500 sets of manuals were disseminated by the State of Illinois. Several sets were retained by the State for library loan copies from the East Centerl Curriculum Management Center. One of the former IOCP staff members reported that he had duplicated 100 sets so that he could "supply his colleagues" and that he "still has a few of those sets." McKnight's marketing data on the number of copies sold each year were obtained from one of the IOCP authors and are as follows:

	Copies on Approval	Regular Sales
1974	5	677
1975	28	511
1976	20	178
1977	4	129
1978	4	107
1979	10	85
	71	1,687

1.7 Adoption and Summative Evaluation

The final report on the results of the first ten IOCP workshops (see item 13 on Table 1) was not available. The tracking of the adoption of IOCP processes and products was largely facilitated by the summative evaluations of IOCP which were conducted by Davis in 1974[1] and 1976[2]. Interviews with State staff, IOCP developers, IOCP consultants, and IOCP workshop participants were also helpful.

In Davis' first study, he reported both overt and covert objectives for participants and staff of the 1072-73 workshops as follows:

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[1] A Study to Determine the Extent of Adoption of Activities from the Illinois Occupational Curriculum Project Manuals Among Selected Vocational Eduators in Illinois. Urbana: University of Illinois (unpublished graduate paper), 1974.

[2] The Consequences of Adopting an Educational Innovation: A Study of the Impact of the Illinois Occupational Curriculum Project Manuals. Urbana: University of Illinois (unpublished doctoral thesis), 1976.

Overt Objectives for the IOCP Workshop Participants:

1. To describe payoffs that exist for local leaders who use a systematic approach to the identification, development, implementation, and evaluation of occupational programs.

2. To describe the development and organization of the IOCP materials.

3. To write measurable objectives using IOCP materials and techniques.

4. To use the IOCP materials to identify job(s) competencies with the help of an advisory committee.

5. To write a specific plan for the utilization of the IOCP materials during the coming year.

Covert Objectives for the 1972-73 IOCP Workshop Staff:

1. To convince (and by example, demonstrate to) vocational educators the value of staff involvement in planning and executing various activities in the realm of instructional program development and evaluation.

2. To convince (and by example, demonstrate to) ocupational educators the value of opening communication channels with the community.

3. To convince (and by example, demonstrate to) occupational educators the value of setting specific targets and engaging in systematic planning techniques (Davis, 1974, p. 4).

To what extent all of these objectives were achieved is not known. Attempts to evaluate the success of the workshops were limited to an end-of-workshop opinionnaire. The opinionnarie was designed to obtain participant reaction to the workshop methodology and content. Overall, it was found that participant reaction to the workshops had been highly favorable. Prior to the 1974 study by Davis, no attempts had been made to learn the extent to which participants in the 1972-73 workshops had utilized the IOCP manuals and/or workshop training. In his 1974 study, Davis investigated what utilization had actually been made of the IOCP manuals. Davis conducted a mail survey to obtain information from participants about themselves and the educational institution with

which they were affiliated, about their evaluation of the IOCP manuals, about their utilization of 19 of the 63 activities in the IOCP manuals, and about their willingness to share their adoptions and adaptations of IOCP activities. Respondents were encouraged to send exhibits of these adoptions and adaptations. This adoption investigation was limited by the fact that workshop rosters contained incomplete or illegible mailing addresses for participants. Some of the missing address information was obtained from the Directory of Illinois Schools. Davis decided the survey should exclude teacher educators and State staff members who had been workshop participants because "they would undoubtedly have had little opportunity to utilize the IOCP manuals in the manner in which they were intended." The survey instrument was finally mailed to 265 individuals, and the number of survey responses totaled 206 (77% of the sample). Findings regarding adoption or adaptation are reported below.

The sample of 19 of the 63 IOCP activities which were used in the survey were selected because (according to Davis, 1974, p. 70) they were "the most likely to be utilized." Every respondent indicated that he/she utilized one or more of the 19 IOCP activities. The six most utilized of these activities were:

- Organizing or improving an advisory committee
- Writing measurable program objectives
- Writing student performance objectives
- Conducting a student follow-up survey
- Involving an advisory committee in program or course evaluation
- Developing a new program or course

One or more of the 206 respondents indicated that they used and were willing to share their work in 18 of the 19 IOCP activities, and 12 actually sent examples of their work.

In his 1974 study, Davis also found that workshop participants frequently shared their IOCP manuals with colleagues who had not attended workshops. (Perhaps it should be again noted that the manuals were only distributed through workshops.) The impact of IOCP began to snowball as users of the IOCP manuals continued to share with others. According to the IOCP developers, another strong force in the adoption of IOCP processes and products was that State staff "really pushed it as a tool for complying with requirements for the State's one and five year plan."

Davis (1976) decided to investigate the consequences of IOCP adoptions and adaptations by conducting a participant observation study by interviewing IOCP users and analyzing documents at four Illinois LEAs--an upstate community college, a downstate community college, an upstate area vocational center, and a midstate area vocational center. Davis wanted to see if the following intended consequences had occurred:

- More systematic planning for occupational course or program additions
- More staff involvement in program planning and evaluation activities
- More use of resource materials related to the management of instructional programs
- More writing of specific management objectives

In all, Davis conducted 59 face-to-face interviews and analyzed numerous documents at the four LEAs. He classified his findings as:

- Desirable or undesirable
- Intended or unintended
- Direct or indirect

Davis found that most IOCP users considered the consequences of adoption to be functional and therefore desirable, that most of the

consequences were intended, and that most of the consequences were indirect rather than direct. It was explained that positive student reactions to the improved organization of classroom instruction was an example of an indirect consequence resulting from the direct consequence of written statements of instructional objectives. A direct consequence of an undesirable nature which was reported by an IOCP adopter was that his peers harassed him for doing extra work. The IOCP adopter said he thought that his peers were jealous of recognition he had received for his work.

During a three-day visit at each of the LEAs in the 1976 study, Davis also observed that many staff members were using IOCP processes and products but were unaware of the source of the material. He also observed that many staff members used IOCP forms without following (or by ignoring) the accompanying procedural instructions from the IOCP manuals.

Three of the four consequences of using the IOCP manuals which Borgen and Davis had intended were realized: more systematic planning, more use of resource materials, and more writing of specific management objectives. The intended consequence which was not realized was "more staff involvement". In his 1976 study, Davis found that IOCP workshop participants returned to their institutions and directed their staff to use IOCP processes and products, and, consequently he concluded that IOCP adoption activities had reinforced the authoritarianism of vocational education administrators. This finding then would be an example of a direct but undesirable and unintended consequence.

Findings of PROJECT IMPACT's case stuay interviews confirmed the findings Davis made as well as shed light on a few others. It was reported that McKnight's publication of the IOCP manuals was being used as a college textbook in occupational curriculum and evaluation courses. It was also reported that sections of the IOCP manuals had stimulated at least two major publications in vocational education--one on evaluation and one on advisory committees. The examples would seem to constitute some desirable but unintended impacts on unintended groups.

Most reports of IOCP users being unaware of the source of the material were not surprising. However, one of the IOCP developers observed a section of a handbook put out by a State office (not in Illinois) which presented IOCP material without citing its source. While this is an example of positive impact of IOCP, it is questionable that the user was unaware of the source. This consequence might have been avoided, if that State had had a policy which required a concise listing of resources which were utilized in the preparation of a State-funded document.

According to some vocational educators in Illinois, the impact of IOCP in Illinois was not sustained and the potential impact of the McKnight publication of the IOCP manuals was never achieved because the method of dissemination changed. It was the opinion of several people interviewed that much of IOCP's impact was due to the confident, pleasant and inspiring personalities of its developers. One participant reported that watching and listening to them was "like being at a live broadcase of a Bob and Ray show." The IOCP developers went on to new experiences in other States and continued to model the IOCP

processes, and did, undoubtedly, carry some of IOCP's impact with them. However, it is nearly impossible to assess the extent of this kind of impact or to replicate it. The fact that both of the IOCP developers went on to "top jobs" was surely due, at least in part, to the notability they had attained wth IOCP.

This concludes the adoption report of IOCP. The impact data which were described in this section are summarized in the impact-data-matrix (section 4). The future of IOCP is discussed below.

1.8 Future of IOCP

According to the IOCP developers and the McKnight Publishing Company, Planning, Implementing and Evaluating Career Preparation Programs was considered to be a "thin-market product." McKnight's decision to publish it had to do with serving the profession rather than making a profit. Sales of the publication have dwindled every year since it came out in 1974 but there are plans on the part of McKnight and the authors to revise it. As stated earlier in this report, the impact of IOCP's processes transcend its products. And it is these intellectual rather than physical characteristics of the innovation that make it difficult to predict or assess its impact in the future.

1.9 Summary, Conclusions and Recommendations for Further Impact Investigation of IOCP

IOCP was actually three related R & D projects funded jointly by the Illinois Board of Education/Department of Adult, Vocational and Technical Education/Research and Development Section and Joliet Junior

College from March, 1970 through June, 1972. IOCP related workshops were also funded by the State in 1973 and 1974 but these were not R & D activities. Document analysis and interviews with key persons associated with IOCP provided a great deal of information which was relevant to assessing the impact IOCP had in Illinois and to what facilitated that impact. Probably the most significant finding regarding actual measurement of impact had to do with the basline data on the 1971 practices of vocational education administrators who were planning, implementing and evaluating occupational curricula. To date, this survey has not been replicated. If it were, it would be possible to test these pre and post IOCP measures for statistically significant differences. If significant differences in the desired direction were found, then it could be said that practices affecting the classroom had undergone a measurable and desirable change. Because of other variables, however, it would not be possible to say that all of the observable change had been due to the impact of IOCP.

If a study to collect post data were undertaken, it would be critical to use the exact methods which IOCP used to collect pre data, e.g., open ended questions should be used, rather than questions where a group of possible answers is supplied for each question (see the summary of Critical Decisions in section 2 of this report).

2. Critical Decisions Affecting IOCP

The decision of the Illinois Board of Education/Department of Adult, Vocational and Technical Education/Research and Development Section to accept proposals for R & D activities which had not come through the traditional RFP channels, was certainly a factor in IOCP. As one DAVTE staff member said, Borgen and Davis were able just to "come in off the street" and present their idea. The decision to fund IOCP three-quarters of the way through a fiscal year (March of 1970), while the researchers were enthusiastic and prepared to begin immediately, may also have been significant.

An IOCP planning document (dated October 1970) listed ten recommendations for further project development. One of these recommendations was that the services of an outside evaluator be obtained to evaluate the project and that these services should be budgeted as consultant fees for Phase Two. While an outside evaluator was never hired to monitor all three phases of IOCP, there were numerous times when an outside evaluator was hired to consult on some activities of the three phases.

On November 20, 1970, the results of a pilot study for An Investigation of Decision-making Practices were reviewed. Project staff and consultants found that the IOCP instrument was not getting at the question of decision-making. Many respondents said they did each activity and thought it was important. The instrument did not identify who made decisions or the sequence in which decisions were made. A decision was made to develop a new instrument which was to be completed by interviewing a stratified random sample of 49 LEA adminis-

trators and teachers. The findings verified the need for systematizing and improving curriculum practices. The findings also provided a basis for longitudinal evaluation (although this has not yet been done).

The IOCP developers had proposed a fourth phase of the IOCP project for the 1973-74 year. This fourth phase was to have included an in-depth evaluation of IOCP. However, IOE/DAVTE was satisfied with the positive impact IOCP had had and decided not to fund the in-depth evaluation.

The decisions regarding dissemination of the IOCP manuals through workshops and later through McKnight were probably significant--but to what extent and in which direction is not yet documented.

The decisions of the IOCP developers to pursue other career activities is thought to have had a negative affect on the impact of the McKnight publication. However, the continued modeling of IOCP processes by the IOCP developers is thought to have a continued positive affect in the states where the developers introduced IOCP (Illinois, Iowa, Michigan, Minnesota and Wisconsin), and elsewhere.

3. Major Events in IOCP

Fall 1969 — Original idea for IOCP was conceived.

March 1970 - June 1970 — Phase One: The Illinois Department of Adult, Vocational and Technical Education/Research and Development Section supported a literature search in an attempt to dentify curriculum development and evaluation models that could form a basis for a packet of guidelines for LEA's to use when developing occupational programs. Potential consultants were identified and a detailed project plan was prepared for Phases Two and Three.

July 1970 - June 1971 — Phase Two: Reports of three research investigations were completed:

a) curriculum development and evaluation models appearing in the literature
b) management systems and modeling techniques useful in the design of instructional program planning guidelines
c) instructional program planning and evaluation practices in Illinois community colleges.

The findings of these investigations provided the necessary bases for the first draft of the five IOCP manuals, as well as actual measurable baseline data on 1971 practices in curriculum development and evaluation.

July 1971 - June 1972 — Phase Three: Fourteen school districts (seven community college districts, three area vocational centers, and four comprehensive high schools) were selected to field test the IOCP manuals. IOCP staff members made regular on-site visits to gather data for the refinement of the IOCP manuals. Regional evaluation conferences were held to bring together field test participants. The five manuals were revised and submitted to DAVTE.

During the same period DAVTE's Professional and Curriculum Development' Section sponsored Joseph Borgen and Dwight Davis to prepare Writing Measurable Objectives for Career Education. The publication included excerpts from the IOCP manuals. Approximately 10,000 copies were disseminated in Illinois.

July 1972 - June 1973	Ten three-day IOCP workshops were help throughout Illinois. Approximately 550 vocational educators participated along with some teacher educators and DAVTE staff.
July 1973 - June 1974	The DAVTE Professional and Curriculum Development Section sponsored Joseph Borgen and Dwight Davis to conduct three orientation and training workshops for LEA's on the IOCP manuals. The Minnesota Division of Vocational and Technical Education contracted with DAVTE, Joseph Borgen and Dwight Davis to conduct six orientation and training workshops for LEA personnel on the IOCP manuals. Michigan and Wisconsin sponsored similar workshops. In the spring, DAVTE released the IOCP manuals to McKnight Publishing, Inc. of Bloomington, Illinois, for commercial publication. Davis completed a follow-up study of 265 participants from the 1972-73 IOCP workshop series. This study utilized a mail survey method. The survey was intended to identify the adoption of IOCP activities.
1975 - 1976	Davis completed a participant observation study at four LEA's in Illinois to investigate the consequences of IOCP adoptions.
1978 - 1979	PROJECT IMPACT analyzed IOCP for impact factors and decided to replicate IOCP's 1971 investigations of curriculum practices to see if they had undergone any statistically significant changes. This study is scheduled to be completed in 1980.
1979 - 1980	PROJECT IMPACT replicated IOCP's 1971 survey and found statistically significant changes (in the desired direction) in the activities carried out and the use of resources by occupational program and curriculum developers in Illinois community colleges (See Postscript to IOCP).

4. Impact-Data Matrix for IOCP

IMPACTS

Groups Impacted	Intended Impacts		Actual Impacts			
			Intended		Unintended	
Directly:	Qualitative	Quantitative	Qualitative	Quantitative	Qualitative	Quantitative
Vocational Education Administrators in Illinois	1.1, 1.2, 1.3, 1.4 * 1	Unspecified % of unspecified size of population 4	1.1 positive 1.2 negative 1.2 positive 1.4 positive 7	13.1, 13.2, 13.3, 13.4 * 13	19.1 * 19	Additional workshops in Michigan, Minnesota and Wisconsin 25
Indirectly: Vocational Students in Illinois high schools and junior colleges	Unspecified 2	5	Positive student reactions to improved organization of classroom instruction 8	Unknown 14	20	26
Special interest groups: Textbook Publishers	Publication of IOCP Manuals 3	6	9	1974-79 McKnight disseminated 1,758, copies 15	21	27
Directly: Teacher Educators in University Departments of Vocational Ed			none 10	none 16	Adopted Phase Two reports and IOCP manuals as 22 textbooks	Unknown 28
Indirectly: University Students in Curriculum Courses			none 11	none 17	Studied Phase Two reports and IOCP manuals 23	Unknown 29
Special interest groups: Writers of Vocational Education Literature			12	18	Stimulated voc ed publications on evaluation, advisory 24 committees	Influenced three publications 30

* See Impact-Data Matrix Specification Sheet on page 35.

Impact-Data Matrix Specification Sheet for IOCP

1.0 Qualitative Intended Impacts

1.1 More systematic practices for occupational curriculum development and evaluation

1.2 More staff involvement in program planning and evaluation activities

1.3 More use of resource materials related to the management of instructional programs

1.4 More writing of specific program management and course objectives

13.0 Quantitative Intended Impacts

13.1	1971-72	As field testers, 14 Illinois school districts adopted IOCP processes and products.
13.2	1972-73	Approximately 100% of 550 workshop participants reacted favorably to IOCP in Illinois.
13.3	1973-74	Three more IOCP workshops were held in Illinois, six in Minnesota, and one (or more) in at least two other states (Michigan and Wisconsin).
13.4	1971-74	Illinois disseminated approximately 3,500 sets of IOCP manuals.

19.0 Qualitative Unintended Impacts

19.1 One IOCP adopter reported that his peers harassed him.

5. Postscript to IOCP

In January 1980, PROJECT IMPACT decided to replicate IOCP's 1971 survey of curriculum development practices in Illinois Community Colleges. Dr. Urban T. Oen who had conducted the 1971 survey as Research Coordinator of IOCP agreed to serve as a consultant to PROJECT IMPACT to collect the follow-up data.

Procedures for the surveys were as follows. First the Illinois State Board of Higher Educaation was asked for a list of community college occupational programs which had been approved for implementation during the past five years. Then stratified random samples were drawn. Because there were so many more new programs in the five years prior to 1979 than in the five years prior to 1971, the sample sizes were unequal -- 49 in 1971 and 76 in 1979. A detailed description of sampling and survey procedures and a copy of the survey form are contained in Appendix A.

There were 48 respondents (97.9) in the 1971 survey and 75 (98.68) in the 1979 survey. Respondents were asked about their activities and the resources they used when identifying, developing and evaluating occupational curricula. In 1971, it was found that when respondents were asked <u>if</u> they carried out an activity or used a particular type of resource, they would say they did. However, differences in responses were observed when respondents were asked open-ended questions as to how they identified a particular occupational program for curriculum development, what did they do next to develop the program and how did they evaluate the new program. These differences in responses pinpointed the areas to which IOCP needed to

direct its efforts. For example, IOCP found a great need to increase practices of conducting manpower surveys, assessing student characteristics, completing job analyses, and conducting follow-up studies on graduates. IOCP also directed its efforts toward increasing the types of resources used by curriculum developers in occupational education (e.g. the use of community organizations and trade unions in addition to an advisory committee. These activities and resources for curriculum development in occupational education are specified in Tables 1 and 2.

The 1971 study reported data for 18 activities and 16 resources used during three phases of curriculum development - a program identification phase (I), a program and course development phase (D), and an evaluation phase (E). The sample proportions (%) for 1971 and 1979 are reported in Tables 1 and 2. Net changes for each phase are also reported. A net change of 7% or more was statistically significant (at the five per cent level).

In reviewing net changes across all three phases, it is noted that sometimes an activity or use of a resource underwent change in only one phase (i.e. activities 1, 2, 5, 8, 14, 16 and 17 and resources 2, 7, 9, 11, 13, and 14). Sometimes an activity or a resource had net gains in two phases or net losses in two phases. A net gain of 7% or more in at least one phase indicated a significant increase in behavior. A net loss of 7% or more, indicated a significant decrease in a behavior. A few behaviors had a significant net gain in one phase and a significant net loss in another phase. These findings may merely indicate a change in the phase during which a behavior occurred rather than the level at which it occurred. Since these instances were relatively few,

TABLE 1

Behavioral Changes in Activities Carried Out By Curriculum Developers in Illinois Community Colleges

Activities	% 1971 (N=48)			% 1979 (N=75)			% Net Change[4]		
	I[1]	D[2]	E[3]	I	D	E	I	D	E
1. Completed local manpower survey	54.2	*		65.3			+11.1		
2. Looked at old manpower data	6.3			12.0			+ 5.7		
3. Determined target population's size	10.4	2.1		9.3			+ 1.1	- 2.1	
4. Determined target population's characteristics	2.1	2.1		5.3			+ 3.2	- 2.1	
5. Completed job analysis survey				9.3			+ 9.3		
6. Looked at programs in other institutions	8.3	70.8		26.6	2.6		+18.3	-44.2	
7. Recruited staff	10.4	66.7		9.3	41.3		- 1.1	-25.4	
8. Recruited students		68.8			89.3			+20.5	
9. Planned facilities	12.5	43.8		45.3	16.0		+32.8	-27.8	
10. Determined what equipment to buy	2.1	2.1		42.6	10.6		+40.5	+ 8.5	
11. Hired staff	4.2	62.5		2.6	42.6		- 1.6	-19.9	
12. Completed follow-up survey of graduates			31.3	2.6		58.6	+ 2.6		+27.3
13. Completed follow-up survey of dropouts			4.2	1.3		1.3	+ 1.3		- 2.9
14. Asked students to evaluate program			52.1			65.3			+13.2
15. Evaluated program			70.8	13.3		88.0	+13.3		+17.2
16. Evaluated staff			10.4			34.6			+24.2
17. Asked employers to evaluate program			22.9			13.3			- 9.6
18. Determined a budget	8.3	8.3		21.3	2.6		+13.0	- 5.7	

[1] I = Identification phase

[2] D = Development phase

[3] E = Evaluation phase

[4] A net change of 7% or more was generally considered significant at the .05 level. However, we were unable to compute standard errors whenever the 1971 or 1979 % was less than 5 or greater than 95.

* Empty spaces = 0%.

TABLE 2

Behavioral Changes In Use of Resources
Curriculum Developers in Illinois Community Colleges

Resources	% 1971 (N=48)			% 1979 (N=75)			% Net Change[4]		
	I[1]	D[2]	E[3]	I	D	E	I	D	E
1. Advisory committee	81.3	93.8	79.2	92.0	9.3	66.6	+10.7	-84.5	-12.6
2. Interested parents	16.7	*		2.6			-14.1		
3. Faculty	4.2	2.1		1.3			- 2.9	- 2.1	
4. Community organizations				17.3	1.3	1.3	+17.3	+ 1.3	+ 1.3
5. Industrial relations & other related committees				4.0		2.6	+ 4.0		+ 2.6
6. Interested businessmen	39.6	6.3		21.3	2.6	2.6	-18.3	- 3.7	+ 2.6
7. Union & management organizations					2.6			+ 2.6	
8. State consultants	14.6	6.3	2.1	6.6	2.6	2.6	- 8.0	- 3.7	- 0.5
9. Interested students				9.3			+ 9.3		
10. Curriculum guidelines	2.1	12.5		12.0			+ 9.9	-12.5	
11. Manpower data				2.6			+ 2.6		
12. Local money		8.3		1.3			+ 1.3	- 8.3	
13. State & federal money				4.0			+ 4.0		
14. Facilities available				4.0			+ 4.0		

[1] I Identification phase

[2] D Development phase

[3] E Evaluation phase

[4] A net change of 7% or more was generally considered significant at the .05 level. However, we were unable to compute standard errors whenever the 1971 or 1979 % was less than 5 or greater than 95.

* Empty spaces = 0%.

let us focus the discussion on those behaviors in which there were significant changes; and let us review what activities are usually considered to be most important in developing occupational curricula.

According to most authorities in the field, no new programs should be approved unless there is a demonstrated need for them (e.g. manpower data which show that there is a greater demand than there is a supply). After the need for new programs has been established, the feasibility of starting these programs must be considered (i.e. what are the societal resources and constraints which will affect the success of such programs). The content of the programs should then be determined by the characteristics of the occupation (i.e. by completing functional job analyses or using published job analyses which have been validated by job incumbents). Most authorities also specify that the characteristics of the intended learners should be analyzed in order to determine appropriate criteria for student selection and appropriate methods and materials for instruction. Few authorities specify the recruitment or hiring of instructional staff as a step in curriculum development. Likewise determinations of budgets, facilities and equipment are not usually considered steps in curriculum development. Recommended evaluation procedures for occupational programs have long emphasized the need to ask students and employed graduates to evaluate curricula.

Now when we look at Table 1, we see significant increases in such important curriculum development behaviors as using manpower data completing job analyses conducting graduate follow-up studies and asking students to evaluate programs. While there were no significant

changes in the behaviors for determining the characteristics of intended learners (activities 3 and 4), there was a significant increase in student recruitment (activity 8). Table 2 shows a significant increase in the use of interested students as resources (resource 9). These findings would seem to indicate significant increases in informal assessment of the intended learner group.

The significant decreases in the proportions of respondents who included recruiting and hiring of staff (activities 7 and 11) may indicate that they no longer perceived these administrative tasks as steps in developing new occupational curricula. It may also be that new curricula were developed with existing staff. The significant decrease in obtaining employer evaluations (activity 17) appears to be a trade-off for the significant increase in follow-up surveys of graduates (activity 12).

The changes in resource utilization behaviors are summarized in Table 2. All fourteen types of resources were mentioned in the 1979 study whereas only seven types were mentioned in 1971. There continues to be a heavy reliance on advisory committees. The clearly significant changes seem to be the trends toward the use of interested students, community organizations and away from parents, businessmen and consultants. The most striking finding is the limited use of resources by the vast majority of respondents in both surveys. The State of Illinois and many professional and trade organizations provide free educational services such as consultants and curriculum guides. These 1971 and 1979 surveys suggest a need to investigate the utilization of such services by developers of occupational curricula.

When the IOCP manuals were prepared for the McKnight publication the choice of title - Planning, Implementating and Evaluating Career Preparation Programs - indicated a change in terminology for the three phases of curriculum development which were identified as identification (I) development (D) and evaluation (E). However, the behavioral changes which IOCP intended to bring about such as more systematic planning, more staff involvement, more use of resource materials and more writing of specific management objectives did not change. In his 1976 investigation of the consequences of IOCP adoptions, Davis concluded that IOCP's impact was negative and unintended on one behavior (more staff involvement in decision-making) and positive and intended on the other three behaviors. The 1971 and 1979 survey data offer additional information on the first three intended behavioral changes (outcomes). If we to compare behavioral levels without regard for the phases in which the behaviors occurred, we can see if there were overall increases or decreases in the desired behaviors. PROJECT IMPACT was not successful in retrieving 1971 data on decision-making behaviors (see items 17-29 and 32-35 on the survey form) and, therefore, could not make comparisons between baseline and follow-up data to see if the measures indicated any changes in the level of staff involvement. However, baseline and follow-up data for "more systematic planning" (activities carried out) and "more use of resources" were obtained and compared for overall increases or decreases. These findings are summarized in Tables 3 and 4. The findings were that in 1979, respondents were less likely to copy other programs and rely on advisory committees, and more likely to rely on manpower data, occupational analyses and program evaluation data than did the 1971

respondents. These findings would seem to indicate that more systematic planning was being done by respondents in 1979 than in 1971. The 1979 respondents used more types of resource materials in 1979 than in 1971. The behavior of writing specific management objectives was not assessed with the form used for the 1971 and 1979 surveys.

TABLE 3

Changes In Activities Carried Out By
Curriculum Developers in Illinois Community Colleges

	Activities	1971	1972	Overall Changes
1.	Completed local manpower survey	54.2	65.3	+11.1
2.	Looked at old manpower data	6.3	12.0	+5.7
3.	Determined target population size	12.5	9.3	-3.2
4.	Determined target population's characteristics	4.2	5.3	+1.1
5.	Completed job analysis survey	0	9.3	+9.3
6.	Looked at porgrams in other institutions	79.1	29.2	-49.9
7.	Recruited staff	77.1	50.6	-26.5
8.	Recruited students	89.3	20.5	+20.5
9.	Planned facilities	56.3	61.3	+5.0
10.	Determined what equipment to buy	4.2	53.2	+49.0
11.	Hired staff	66.7	45.2	-21.5
12.	Completed follow-up survey of dropouts	31.3	61.2	+29.9
13.	Completed follow-up survey of dropouts	4.2	2.6	-1.6
14.	Asked students to evaluate program	52.1	65.3	+13.2
15.	Evaluated program	70.8	101.3	+30.5
16.	Evaluated staff	10.4	34.6	+24.2
17.	Asked employers to evaluate program	22.9	13.3	-9.6
18.	Determined a budget	16.6	23.9	+7.3

TABLE 4

Changes in Use of Resources By
Curriculum Developers In Illinois Community Colleges

	Resources	1971	1972	Overall Changes
1.	Advisory committee	254.3	167.9	-86.4
2.	Interested parents	16.7	2.6	-14.1
3.	Faculty	6.3	1.3	-5.0
4.	Community organizations	0	19.9	+19.9
5.	Industrial relations & other related committees	0	6.6	+6.6
6.	Interested businessmen	45.9	26.5	-19.4
7.	Union & management organizations	0	2.6	+2.6
8.	State consultants	23.0	18.4	-4.6
9.	Interested students	0	9.3	+9.3
10.	Curriculum guidelines	14.6	12.0	-2.6
11.	Manpower data	0	2.6	+2.6
12.	Local money	8.3	1.3	-7.0
13.	State & federal money	0	4.0	4.0
14.	Facilities available	0	4.0	+4.0

Summary and Conclusions

The intended impact of IOCP was to improve the curriculum development practices of occupational educators (especially local-level administrators in secondary and post-secondary schools in Illinois). That there was a need to improve these practices was only an assumption until IOCP collected baseline data in 1971. The baseline data pinpointed the levels at which curriculum activities were being carried out and the rates at which curriculum development resources were being utilized by developers of occupational curricula in Illinois community colleges. Comparable data were gathered five years after IOCP's State funding was terminated and statistically significant increases in desirable curriculum development behaviors were found. It should be noted that while IOCP was considered to be a major treatment variable, there was no controlled experiment where IOCP was an independent variable without any intervening variables. It should also be noted that the 1971 and 1979 surveys were limited to community colleges; and, therefore, may not be generalizable to occupational educators at the secondary level. The 1979 survey findings were an attempt to assess the impact of a completed R & D project which had provided its own baseline data. We can only speculate about when IOCP's impact reached its peak. In terms of developing procedures for assessing the immediate versus sustained impacts, it would have been valuable to know the results of a 1975 survey as well.

Based upon our experiences in PROJECT IMPACT at the University of Illinois, it is possible to assess the probable impact of R & D activities. Collection of baseline data to validate assumptions of a

search program should be a required part of the funded activities of a project unless these data were adequately presented in the research proposal. Unless such baseline data are available for making post-program comparisons, it is next to impossible to assess impact (measureable changes). Because of this all too frequent lack of baseline data, evaluators are often pressed to report dissemination and utilization data as evidence of impact.

Appendix: IOCP Procedures and Forms Used to Survey Curriculum Development Practices in Illinois Community Colleges

SELECTION OF THE SAMPLE

1. The Illinois Community College Board was contacted and asked to furnish a computer print-out of all new programs approved for the past five years. The list sent to us not only included all new programs but those with only title changes or program modifications. Not knowing new programs from those with changes, we left them all in the sample and provided a means for eliminating such programs during the interview process.

2. A 122 page computer print-out was received. In order to group the programs by title, it was necessary to sort 2,562 listings into appropriate and similar programs by institution. From this consolidation, a list of approved programs was developed.

3. From the list a master matrix table by instruction and by program was developed.

4. A total of 73 programs were approved for five or more institutions.

5. To coincide with the original survey, all programs were placed under the five major headings used in the State of Illinois; that is, Applied Biological and Agriculture Occupations; Business, Marketing and Management Occupations; Health Occupations, Industrial Oriented Occupations; and Personal and Public Service Occupations. Each program was then assigned a number and using a table of random numbers, the programs to be used in the study were selected. Applied Biological and Agricultural Occupations had the fewest number approved i.e., five programs. In order to keep an even ratio of programs selected, five became the common denominator. The programs selected by area were:

Applied Biological and Agriculture Occupations

Agriculture Supply

Business, Marketing and Management Occupations

Fashion Merchandising
Certified Professional Secretary
Secretarial Science
Stenography

Health Occupations

Dietetic Technology
Practical Nursing

Personal and Public Service Occupations

Food Service Management
Fire Fighter
Law Enforcement

Industrial Oriented Occupations

Auto Body Repair
Architectual Drafting
Construction Technology
Building Construction Technology
Electronics Technology

In addition to the main samples, alternates were also chosen.

6. The next step was to determine which programs would constitute the study sample. To accomplish this, the schools within each program area selected were assigned a number and again using a table of random numbers, five schools were selected in each program area. In addition possible alternates were identified in case a particular institution had failed to establish that particular program.

7. Selection of the Training Sample and Training of the Interviewers

Ken Andrew, a graduate assistant from the University of Illinois, came for two days of training. The project procedures were thoroughly explained. The training sample was composed of College of DuPage and Elgin Community College. The College of DuPage and Elgin Community College interviews were on-site to provide face-to-face exposure. Since it would be impossible to do all on site interviews, the final time was devoted to calling schools via telephone and completing the interview in this fashion. A critique followed each telephone call. Some simulation was also used.

Collection of the Data

A list of all schools to be contacted and the programs in each school was compiled. The telephone number for each school was placed on the list. Each occupational dean of each school in the sample was contacted by telephone to explain the purposes of the study and to schedule the interviews.

It come than one person helped establish the program, both were interviewed. Originally we intended to interview all parties involved but since many people had moved it was impossible to always contact each concerned person. In most instances we interviewed deans, division or department chairman, and lead teachers.

The procedure for the interview was as follows. The project was explained and asked to respond in terms of program identification, program development and program evaluation. Key questions were asked to help the respondent. The standard introduction and key questions, and forms are attached. One the forms used to record the data, an "X" was placed opposite the item in the sequence given to the researcher. For instance, if a person indicated to the researcher that he first looked at old manpower data, an "X" was placed in Column 1, row 38 on the "Identification of Occupational Education Curriculum Decision Making" form.

STANDARD FORMAT AND KEY QUESTIONS USED DURING THE PERSONAL INTERVIEWS

A research project currently in progress at the University of Illinois is directing its efforts toward the identification of administrative decision-making related to development and evaluation of occupational education programs. Many personnel from Illinois junior and community colleges are being asked to make contributions to the project.

The project is funded by the Illinois Office of Education/Department of Adult, Vocational and Tchnical Education/Research Development Section.

One objective of the project is to identify those people making decisions, the different decisions made, and by whom. Another objective is to identify all those factors which are considered in making decisions. A third objective is to identify the philosophy, rationale, and organizational structure of the development and administration of junior college occupational education curriculums. In order to do this, we are interviewing deans and department heads of occupational education concerning the recent establishment of different occupational education programs. In order to get at how you go about your processes here at your institution, where the key decisions are made, what some of the key activities are, we would like to ask you questions that fall into these kinds of areas. These different areas are:

1. Program Identification
2. Program and Course Development
3. Program Evaluation

We realize that not everybody does this in this same type of procedure. In general, everybody goes through an activity where they have to identify the kinds of programs that the institution is going to be involved in. Then they move into the development of that particular area. And after it is laid out and the decision is made, they stop to develop it. In so doing, there are a number of considerations that need to be considered before the specific decision of program execution is made.

If you are indicating to me that you did a manpower survey, etc., could you at times please tell me why you did it? In other words, at the time that you are telling me that you did a particular activity or function and you considered certain factors, it would be helpful to us in determining why you made a particular decision if this will not interrupt your telling me the story of how you developed that particular program. While you are talking about a specific area, I may have some specific questions for each of the areas.

The data are confidential.

KEY QUESTION APPROCH

A. Program Identification

1. How was _____ identified as a potential area at _____ College?
2. Who was involved in doing this?
3. When was it done?
4. How was it done?

B. Program and Course Development

1. What I mean by program and course development is who put the program and courses together, how were they put together, who planned the facilities, who laid out how the students were to be recruited, etc.
2. What did you do to look further into this area to determine whether or not you should go ahead and plan program and courses, etc.
3. Who did you consult?
4. Who was involved in helping you go ahead and develop this program?
5. When you determined that you were going ahead to develop this program, who was involved in the development of the courses?
6. Who helped plan the facilities?
7. Who helped recruit students?
8. When were these done?
9. Did you use advisory committees, curriculum guides, etc., in setting up the courses?
10. Were the facilities here, or did you have to plan and build new facilities?

C. Program Evaluation

1. What have you done in terms of evaluation of this program, or what has or is being planned?
2. Who will be involved?
3. What kinds of factors are you going to consider?

IDENTIFICATION OF OCCUPATIONAL EDUCATION CURRICULUM DECISION–MAKING

	Program Identification										Program Development										Program Evaluation				
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5
Activities Completed (doing)																									
36. Began to Explore the Occupational Area																									
37. Completed Local Manpower Survey																									
38. Looked at Old Manpower Survey Data																									
39. Determined No. of Target Population																									
40. Determined Aspirations, Char. & Interest																									
41. Completed Job Analysis Survey																									
42. Looked at Programs in Other Institutions																									
43. Held Meeting With																									
44. Report Sent for Approval																									
45. Developed Specific Courses																									
46. Recruited Staff																									
47. Recruited Students																									
48. Planned Facilities																									
49. Determined What Equipment to Buy																									
50. Hired Staff																									
51. Completed Follow-up Survey of Graduates																									
52. Completed Survey of Drop-outs																									
53. Asked Students to Evaluate Program																									
54. Evaluation of Program																									
55. Evaluated Staff																									
56. Employer Evaluations																									
57. Did evaluation feedback into program?																									
58. Determined a Budget																									
Resources																									
59. Advisory Committee/Sub-Committee																									
60. Interested Parents																									
61. Faculty																									
62. Community Organizations																									
63. Industrial Relations & Other Related Committees																									
64. Interested Businessmen																									
65. Union and Management Organizations																									
66. State Consultants																									
67. Students Expressed an Interest																									
68.																									
69. Curriculum Guidelines																									
70. Manpower Data																									
71. Local Money Available																									
72. State and Federal Money Available																									
73. Physical Facilities Available																									
74.																									
75.																									
Constraints (influences affecting the decision)																									
76. Money																									
77. Political (influential people)																									
78. Time																									
79. Expertise																									
80.																									